REMARKS

Claims 1, 3-15, and 17-20 are pending in the application, with claims 1, 8 and 15 being the independent claims. Claims 1, 8, 10, and 15 are currently amended.

Applicant respectfully traverses the Examiner's rejection of each independent and dependent claim pending in the application.

Objections to the Claims

Claims 10 is objected to for depending on canceled claim 9. Claim 10 has been amended to depend on claim 8. Applicant respectfully requests the objections to claims 17 and 18 be withdrawn.

Rejections under 35 U.S.C. § 112

Claims 1, 3-8, 10-15 and 17-20 are rejected under 35 U.S.C. 112 for being indefinite. Applicant respectfully traverses these rejections.

Claims 1, 8, and 15 have been amended to replace "in a processor" with "by a processor." The claimed step of "updating a page table" is performed "by a processor." Support for this amendment can be found in, for example, paragraph 21 of the specification, "When the page table 202 is updated by the processor." The original phrasing was meant to convey that the act of updating a page table would take place "in" a processor, as all the operations for the updating would occur inside the processor.

The phrase "with the first virtual machine in an address space associated with the second virtual machine," from claims 1, 8, and 15, does not indicate that the "first virtual machine" is "in an address space." The phrase "in an address space" is connected to the phrase "associated with the second virtual machine," indicating that the second virtual machine's address space is the destination for "a page associated with the first virtual machine." Applicant believes the current phrasing clearly defines the metes and bounds of the claims, as the phrase "in an address space associated with the second virtual machine" provides the target for the verb "placing."

Grammatically, therefore, the phrase cannot be read as stating that the first virtual machine is in an address space. If the phrase is still believed to be unclear, it may be amended to state "placing a page associated with the first virtual machine in the second virtual machine's associated address space."

Claims 1, 8, and 15 are therefore allowable over the rejection under 35 USC 112. Claims 3-7, 10-14, and 17-20 are allowable over the rejection under 35 USC 112 for at least depending on claims 1, 8, and 15, respectively.

Rejections under 35 U.S.C. § 103

Claims 1, 3-7, 9-14, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Publication No. 20050086237 (Monnie) in view of US Patent No. 6,345,351 (Holmberg). Applicant respectfully traverses these rejections.

Monnie does not disclose or suggest utilizing first and second virtual machine queues associated with respective first and second virtual machines to communicate between the virtual machines.

Monnie appears to suggest the use of shared queues that may be utilized by multiple virtual machines (Monnie, abstract). A first virtual machine may place data into the shared queue, and a second virtual machine may remove that data from the shared queue for processing (Monnie, para. 85). Nowhere does Monnie disclose or suggest first and second virtual machine queues associated with respective first and second virtual machines. The shared queues in Monnie are not associated with any particular virtual machine. Instead, they are shared by all virtual machines, and all virtual machines may both add and remove data from the shared queues (Monnie, paras. 85, 87, 89). Attempting to use the shared queues of Monnie to communicate between virtual machines would require additional control structures, as there is no mechanism by which one virtual machine in Monnie may be informed that another virtual machine has placed data for it in one of the shared queues. Instead, Monnie relies on the applications being run within a virtual machine to have been programmed to check for certain types of data in shared queues (Monnie 85, 88). In the present

claims, for communication to take place between first and second virtual machines, data (in the form of a page associated with a first virtual machine) is placed in the address space of the second virtual machine, and the second virtual machine queue is utilized to inform the second virtual machine of the presence of the data from the first virtual machine.

Holmberg does not remedy these deficiencies of Monnie. Further, Holmberg does not suggest placing a page associated with the first virtual machine in an address space associated with the second virtual machine. Holmberg appears to suggest the use of standard paging techniques to assist in concurrent speculative computing (Holmberg, abstract). When a speculative job is performed on a page of memory, a copy of that page is kept as a backup (Holmberg, col. 14, 36-48). If the speculative job fails (i.e., the branch that would've necessitated the job is not followed), the backup page may be used to restore the page of memory that was changed by the speculative job. A backup page may also be placed into a speculative job's address space, so that the speculative job only works with the backup page, which can be discarded if the speculative job fails (Holmberg, col. 15, lines 1-9). Nowhere does Holmberg disclose or suggest placing a page associated with a first virtual machine in an address space associated with a second virtual machine, the mechanism by which data may be communicated between virtual machines in the present claims. Holmberg makes no provisions for any such communication between virtual machines, and does not contemplate more than one virtual machine, as Holmberg is only concerned with concurrent speculative computing. Further, a combination of Monnie and Holbmerg would not result in techniques such as those of the present claims. The techniques of Holmberg may be used to enable concurrent speculative computing with the shared queues of Monnie, but in no case can they be used for communication between a first virtual machine and a second virtual machine.

For the above reasons, claim 1 is allowable over Monnie in view of Holmberg.

Claims 3-7 are allowable over Monnie in view of Holmberg for at least being dependent on the allowable claim 1.

Claims 8 and 15 are allowable over Monnie in view of Holmberg for at least being similar to claim 1.

Claims 9-14 and 17-20 are allowable for at least depending on claims 8 and 15, respectively.

Conclusion

All of the stated grounds of rejection have been properly traversed. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

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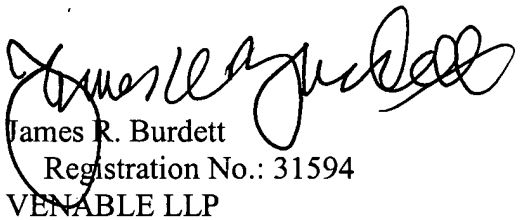
Respectfully submitted,



James R. Burdett
Registration No.: 31594
VENABLE LLP
P.O. Box 34385
Washington, DC 20043-9998
(202) 344-4000
(202) 344-8300
Attorney/Agent For Applicant